THE IMPACT OF IS RESEARCH: IS IT ENOUGH? HOW DO WE EXPAND? HOW DO WE DOCUMENT?

SENIOR SCHOLAR'S FORUM

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Introduction

Questions about the value of research, particularly in business and IS, have come to the foreground in recent days. Business schools are facing new reporting requirements related to the impact of research (AACSB International, 2008). National research funding has been revised, for example in Great Britain, to shift emphasis toward citations and other indicators of impact (Powell and Woerndl, 2008). The intrinsic and philosophical basis for IS research is being scrutinized (still? again?) (Hassan, in press).

Fundamental questions can be raised about the nature of research and its impact. Questions about impact can focus on whether the research is creating value. Discussions of value target whether we are addressing questions of sufficient heft and importance to merit the time, energy, and publication pages. This discussion isn't likely to conclude that IS research has zero value, though one might debate whether it has "enough" value, whether it ought to generate more value, and at whatever amount it is, whether there are ways to increase it. (Logically, it is possible that research provides wrong findings and pushes knowledge and practice into misguided directions, but one might argue that negative outcomes will eventually force reconsideration and conscious elimination of "dead ends" thus leading to positive, if painfully wrought, outcomes.)

Given the assumption that the amount of value generated is greater than zero, discussions of impact can focus on how it can be best observed, documented, diffused and promoted to maximize overall value among various stakeholders, including practitioners and the broader range of potentially affected citizenry.

This leads to fundamental questions: What is impact of research? How do we measure it? How do we expand positive impact? Additionally, we should consider the proper "unit of analysis" – or at least distinguish among them. Should impact be evaluated in terms of the entire IS field? Subsets of the field's publications (e.g. basket of 8 journals versus all refereed IS journals versus all IS journals refereed or not)? Each university and its program (as AACSB looks ready to require)? At the level of each individual researcher (as AACSB promises not to do – though how individual schools conduct their analysis – for example by "rolling up" the impact of each individual – makes this a promise that may be difficult to keep).

There are a number of factors that make such definition, measurement, and extension complex. Is the impact to be measured immediately on publication, after a year, as an accumulation over a lifetime for an individual? Does a researcher moving from one institution to another "take the impact with her" or does the impact remain with institution where it was conducted? Do we need to create some index for dividing up the impact someone created to allocate it to different affiliations?

Do we assess differently basic and applied research? When a new medication is developed based on the hundreds of precursor studies, do we recalibrate the impact assigned to each of those precursors? Do we divide the "credit" evenly among those studies or devise some formula for allocating more "credit" to the more important among them? Do we strip "credit" from research down what proves ultimately to be a dead-end or less-economically-viable path?

In IS more specifically, how do we assign impact "credit" to papers addressing society in general (e.g., using social media to market to young children) relative to those aimed at the IT function within an organization (e.g., developing or evaluating a particular approach to risk management in IT development or contrasting the best time to use SDLC versus peer programming)?

How do we account for the unintended as well as intended impacts of IS research? Much research takes years to move from concept to publication. Significant external events, such as the invention of complementary technologies, may elevate the role of a particular research project or stream through no action of the researchers.

How do we account for intense impact on a small population versus a small broad impact on a larger one? An algorithm that streamlines transportation models in rare but costly circumstances may have large dollar impact but affect relatively few people. Understanding when to use or not use UML in development projects may have little obvious measurable dollar impact but affect the costs and benefits derived from many individual projects.

At the end of the day, we are a diverse community as reflected in our research topics, methods, and philosophies. It is unlikely that we will achieve consensus on the amount of value inherent in research projects and streams, the ways to define, measure, and increase the positive impact of our research. That said, however, we believe there is significant value in the effort to move forward in the attempt to understand the processes and improve the creation of value in our research.

Organization of the Forum

We intend for the panel to have four distinct phases. The major one relies on the participation of the audience. The guiding principles for this design are to draw on the panelist's expertise and experience to provide some initial principles and issues on the topic, and engage participants in examining these.

For the first phase, the facilitator will present the topic with a few slides featuring a few key questions (5 minutes)

Each of the panelists will then outline key issues and solutions in 5 minutes each (20 minutes).

The floor will be opened to questions and comments (50 minutes)

The final 20 minutes will consist of each panelist summarizing one or two key "take away" points. The facilitator will finish with a brief final summation of emergent themes.

Controversial Issues

(1) How do we define impact? What do we mean by influence? Can we identify a taxonomy of different types of impact? (2) How do we measure impact? What are the indicators that IS research has had direct or indirect impact as individual concepts or in their collection? (3) What (if any) interventions can lead to adding to the impact of IS research on the community? Are there changes in method, topic, stakeholders, incentives, community, or other facets of the scholarly sector as a social institution that would add leverage to the knowledge produced?

The panelists positions

Burt Swanson. Research in the field of information systems is presently under pressures to justify its value by speaking to its impact on professional practice. To help frame the issue, I present here a simple model enabling research impacts to be identified and differentiated, distinguishing between those that occur through direct engagement of academic practice with professional practice, and those that occur through diffusion of practices, both academic and professional. Several conjectures about IS research impacts follow from an analysis of the model.

Kevin Crowston. To conceptualize the different ways of thinking about the impact of IS research, I draw on IS research that conceptualizes the impact of systems. The most commonly cited model for IS success is one from DeLone and McLean (1992), which suggests 6 measures of success: system quality, information quality, use, user satisfaction, individual impact and organizational impact. By analogy, possible measures for assessing the success of IS research include organizational or individual impacts, use, and article or journal quality. Unfortunately, assessment of research impact seems to face many of the same problems as assessment of system quality.

Philip Powell. I will present reflections on research impact from five perspectives; as an executive dean with responsibility for the research activities of a school of 170 staff, as an editor-in-chief (and previously managing editor) of the *ISJ*, as a researcher whose main work has involved case analysis of IS impacts in small firms, as a pro-vice master of Birkbeck where I have cross-institutional responsibility for business engagement activities, and as the lead responsible for institutional submissions to the UK government's Research Excellence Framework (REF) where one element is research impact. We need to convince policy makers and funders that our research has impact, so I will outline our experiences of developing REF impact case studies in information systems, computer science, economics and management and discuss these in relation to journal publication and real world interactions and the attitudes of researchers.

Helmut Krcmar. There is a strong relationship between universities and IS producers and users in much of Europe. This relationship allows for meaningful participation of researchers in the development of systems as well as in publishing generalizations based on observations from these efforts. As a result of these efforts, the impact of IS research can be experienced directly and clearly in practice. I will discuss how such relationships are established and cultivated, about some of the particular products from such collaborative projects, and about future prospects of replicating these elsewhere. I will also discuss how such research activity can be promoted prominently in the field as a whole for its contribution and how such activities can be used to demonstrate the impact of IS research to outside entities.

Forum Participant Bios

E. Burton Swanson is Professor Recalled in Information Systems at the UCLA Anderson School, where is also Director of the Information Systems Research Program. He is a Fellow of the Association for Information Systems

(AIS) and also a recipient of its LEO award for exceptional lifetime achievement. He was the founding Editor-in-Chief of the journal, *Information Systems Research*, 1987-92. Earlier he was also a co-founder of the *International Conference on Information Systems (ICIS)*, in 1980. Professor Swanson's research examines the life cycles of systems in organizations, addressing issues of innovation, implementation, utilization, and maintenance. He has authored more than one hundred scholarly articles. His most recent work addresses organizing visions for innovating with IT.

Kevin Crowston is a Distinguished Professor of Information Science in the School of Information Studies at Syracuse University. His research examines new ways of organizing made possible by the extensive use of information and communications technology. Specific research topics include the development practices of Free/Libre Open Source Software teams and work practices and technology support for citizen science research projects, both with past NSF support. He is co-editor-in-chief of the journal *Information, Technology & People*, Chair of the Organizational Communications and Information Systems Division of the Academy of Management and Vice Chair of the International Federation for Information Processing (IFIP) Working Group 8.2 on Information Systems and Organizations. He is presently serving as a program director for the Cyber-Human Systems program at the US National Science Foundation in the Division of Information and Intelligent Systems in the Directorate for Computer and Information Science and Engineering.

Philip Powell is Pro Vice-Master (Enterprise and Innovation) and Executive Dean, at Birkbeck, University of London. He was Deputy Dean, Professor of Information Management and Director of the Centre for Information Management, University of Bath, and Director of the IS Research Unit at Warwick Business School. He has worked and taught in Australia, Africa, US and Europe. Before becoming an academic he worked in insurance, accounting and systems analysis. He is the author of 12 books, has published numerous book chapters, and his work has appeared in over 110 international journals and at over 150 conferences. He is editor-in-chief of the *Information Systems Journal* and associate editor/board member of other journals. He is a past President of UKAIS and sits on a number of British Computer Society (BCS) committees. He holds an honorary chair in IS economics at the University of Groningen in the Netherlands and is a fellow of the BCS and an academician of the Academy of Social Sciences.

Helmut Krcmar is currently serving as the President-elect of AIS and will then serve as its 20th President. Prof. Dr. Krcmar serves as Dean Faculty Computer Science and Professor of Information Systems with a joint appointment to the Business School at Technische Universität München (TUM). He serves as Scientific Director of Information Management at fortiss GmbH, an applied research Institute for Software, Systems, and Services. He serves as a Member of the Supervisory Board at IMC Information Multimedia Communication AG since 2007, on the data security and privacy board at Deutsche Bahn und is president of the german nationa E-Government Competence Center (NEGZ). He is broadly published in the IS field, especially regarding Information Management and has long served as an advocate of research that matters in support of IS practice. He will therefore focus on the subjects of collaboration between German universities and the surrounding business and technical ecosystems as well as the need for diversity in research approaches.

Fred Niederman serves as the Shaughnessy Endowed Professor of MIS at Saint Louis University. He obtained an MBA and a Ph.D. in Management Information Systems from the University of Minnesota. His research interests include building global information management, MIS personnel, and using MIS to support teams and groups. Recently he has been investigating the integration of MIS functions after corporate mergers and acquisitions. He is a proponent of grounded theory and theory building as a way to enrich the MIS discipline and build intellectual content customized specifically to our field of practice. He has published more than one hundred articles in leading research journals and refereed conference proceedings. He serves on editorial boards for *TMIS*, *JAIS*, *CAIS*, *Human Resource Management, Journal of International Management*, *IEEE Transactions on Engineering Management* and the *Journal of Global Information Management.* He has edited or co-edited special issues for *CACM*, *DATABASE*, *Journal of Global Information Management*, *Journal of Organizational Computing and E-Commerce* and *Human Resource Management*. He recently served as co-program chair for the 2010 *ICIS* conference in St. Louis, Missouri, and is an active member in the MIS "senior scholars".

Acknowledgements

Kevin Crowston is supported by the National Science Foundation. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

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